

SUMMARY

The present invention relates to the use of melatonin and/or a chemically modified derivative thereof for making pharmaceutical preparations for the regulation of insulin release by influencing the β -cell of the pancreatic islets through a melatonin-specific receptor.

Surprisingly, we have found that melatonin and/or chemically modified derivatives thereof, when used according to the invention,

- realize their insulin-reducing influence through G-protein-coupled membrane-bound receptors;
 - through the melatonin receptor assume pacemaker significance, because the release of insulin from isolated pancreatic islets underlies the circadian and ultradian rhythms;
 - through the melatonin receptor, in pharmacological ($5 \mu\text{M}$) as well as in physiological doses (0.2 nM), reduce the stimulated release of insulin from pancreatic islets in statistically significant manner.